

**PATENT COOPERATION TREATY**  
**PCT**

**INTERNATIONAL PRELIMINARY REPORT ON PATENTABILITY**  
(Chapter II of the Patent Cooperation Treaty)

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(PCT Article 36 and Rule 70)

Applicant's or agent's file reference P2790WO Mkö	<b>FOR FURTHER ACTION</b>	
See Form PCT/IPEA/416		
International application No. PCT/EP2004/001923	International filing date (day/month/year) 26.02.2004	Priority date (day/month/year) 26.03.2003
International Patent Classification (IPC) or national classification and IPC H04M1/02		
<p><b>Applicant</b>  <b>SONY ERICSSON MOBILE COMMUNICATIONS AB et al.</b></p>		

<p>1. This report is the international preliminary examination report, established by this International Preliminary Examining Authority under Article 35 and transmitted to the applicant according to Article 36.</p> <p>2. This REPORT consists of a total of 5 sheets, including this cover sheet.</p> <p>3. This report is also accompanied by ANNEXES, comprising:</p> <p>a. <input checked="" type="checkbox"/> (<i>sent to the applicant and to the International Bureau</i>) a total of 1 sheets, as follows:</p> <ul style="list-style-type: none"> <li><input type="checkbox"/> sheets of the description, claims and/or drawings which have been amended and are the basis of this report and/or sheets containing rectifications authorized by this Authority (see Rule 70.16 and Section 607 of the Administrative Instructions).</li> <li><input type="checkbox"/> sheets which supersede earlier sheets, but which this Authority considers contain an amendment that goes beyond the disclosure in the international application as filed, as indicated in item 4 of Box No. I and the Supplemental Box.</li> </ul> <p>b. <input type="checkbox"/> (<i>sent to the International Bureau only</i>) a total of (indicate type and number of electronic carrier(s)) , containing a sequence listing and/or tables related thereto, in computer readable form only, as indicated in the Supplemental Box Relating to Sequence Listing (see Section 802 of the Administrative Instructions).</p>	
<p>4. This report contains indications relating to the following items:</p> <ul style="list-style-type: none"> <li><input checked="" type="checkbox"/> Box No. I Basis of the opinion</li> <li><input type="checkbox"/> Box No. II Priority</li> <li><input type="checkbox"/> Box No. III Non-establishment of opinion with regard to novelty, inventive step and industrial applicability</li> <li><input type="checkbox"/> Box No. IV Lack of unity of invention</li> <li><input checked="" type="checkbox"/> Box No. V Reasoned statement under Article 35(2) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement</li> <li><input type="checkbox"/> Box No. VI Certain documents cited</li> <li><input type="checkbox"/> Box No. VII Certain defects in the international application</li> <li><input type="checkbox"/> Box No. VIII Certain observations on the international application</li> </ul>	

Date of submission of the demand 26.08.2004	Date of completion of this report 28.12.2004
Name and mailing address of the international preliminary examining authority:   European Patent Office - P.B. 5818 Patentlaan 2 NL-2280 HV Rijswijk - Pays Bas Tel. +31 70 340 - 2040 Tx: 31 651 epo nl Fax: +31 70 340 - 3016	Authorized Officer  Golzio, D Telephone No. +31 70 340-3486



# INTERNATIONAL PRELIMINARY REPORT ON PATENTABILITY

International application No.  
PCT/EP2004/001923

## Box No. I Basis of the report

1. With regard to the **language**, this report is based on the international application in the language in which it was filed, unless otherwise indicated under this item.
  - This report is based on translations from the original language into the following language, which is the language of a translation furnished for the purposes of:
    - international search (under Rules 12.3 and 23.1(b))
    - publication of the international application (under Rule 12.4)
    - international preliminary examination (under Rules 55.2 and/or 55.3)
2. With regard to the **elements\*** of the international application, this report is based on (*replacement sheets which have been furnished to the receiving Office in response to an invitation under Article 14 are referred to in this report as "originally filed" and are not annexed to this report*):

### Description, Pages

1-5 as originally filed

### Claims, Numbers

1-3 received on 20.10.2004 with letter of 20.10.2004

### Drawings, Sheets

1/4-4/4 as originally filed

a sequence listing and/or any related table(s) - see Supplemental Box Relating to Sequence Listing

3.  The amendments have resulted in the cancellation of:
  - the description, pages
  - the claims, Nos.
  - the drawings, sheets/figs
  - the sequence listing (*specify*):
  - any table(s) related to sequence listing (*specify*):
4.  This report has been established as if (some of) the amendments annexed to this report and listed below had not been made, since they have been considered to go beyond the disclosure as filed, as indicated in the Supplemental Box (Rule 70.2(c)).
  - the description, pages
  - the claims, Nos.
  - the drawings, sheets/figs
  - the sequence listing (*specify*):
  - any table(s) related to sequence listing (*specify*):

\* If item 4 applies, some or all of these sheets may be marked "superseded."

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**Box No. V Reasoned statement under Article 35(2) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement**

**1. Statement**

Novelty (N)	Yes:	Claims	1-3
	No:	Claims	
Inventive step (IS)	Yes:	Claims	1-3
	No:	Claims	
Industrial applicability (IA)	Yes:	Claims	1-3
	No:	Claims	

**2. Citations and explanations (Rule 70.7):**

**see separate sheet**

**Section V**

**Claim 1**

Claim 1, line 19 contains the expression "above" which means, as indicated in the description, page 2, lines 22 to 25, "in a plane distant from the display on the inside of the upper casing or skywards when the mobile terminal is held in a normal position in which the keypad and the inner display both face towards the sky". This meaning should have been explicitly included into Claim 1.

Interpreting the claim as explained above, and using the wording of present Claim 1, document **D1** (PATENT ABSTRACTS OF JAPAN vol. 2003, no. 04, 2 April 2003 &; JP 2002 369252 A (SONY CORP), 20 December 2002) discloses in figure 1: a clamshell-type mobile terminal for a wireless communication system, comprising:  
a lower casing comprising a keypad with input keys,  
an upper casing comprising a display, said lower casing and said upper casing being connected by a hinge means connecting the lower and the upper casing so that the lower and upper casing can be folded onto each other, whereby the lower casing is the casing part, which during operating the mobile terminal is in the palm of the hand of the user, whereby the upper casing is extending away from the hand of the user in an opened state of the mobile terminal and folded onto the lower casing in a closed state of the mobile terminal.

Claim 1 differs from document D1 in that the hinge means is located and arranged so that in an opened state, the lower casing lies **above** the upper casing enabling an easy access to input keys located close to the hinge means on the lower casing and in that the rotation axis of the hinge means forming the centre of the folding movement between the lower and upper casing lies in the middle plane of the lower casing.

Due to this arrangement when the upper casing when is in an open position, does not interfere in the plane containing the keys allowing for a better access to the keys and, in general, to the surface of the lower casing.

The cover of the telephone disclosed in document **D1** when is in an open state does

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(SEPARATE SHEET)**

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interfere with plane of containing the keys. In addition this document deals with a completely different problem, which is enabling a sub-display located in the hinge to be visible when the telephone is closed.

The other documents contained in the International Search Report are either dealing with a different problem or are directed to different device type - articulated hinge for laptop or pocket calculator - and do not address the problem of maximizing the operability on the surface of a lower casing of a clamshell-type mobile terminal for a wireless communication system.

In view of the above the subject-matter of Claim 1 is considered to be new and involve an inventive step (Art. 33(3) PCT).

**Claims 2 and 3**

These dependent claims define particular embodiments of Claim 1 which are not considered obvious.

20.10.2004

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### New Claims

1. Clamshell-type mobile terminal (1) for a wireless communication system, essentially comprising
- 10 a lower casing (2) comprising a keypad with input keys and an upper casing (3) comprising a display, said lower casing (2) and said upper casing (3) being connected by a hinge means (4) connecting the lower (2) and the upper casing (3) so that the lower and the upper casing can be folded onto each other, whereby the lower casing (2) is the casing part, which during operating the mobile terminal (1) is in the palm of the hand of the user, whereby the upper casing (3) is extending away from the hand of the user in an opened state of the mobile terminal (1) and folded onto the lower casing (2) in a closed state of the mobile terminal (1), whereby the hinge means (4) is located and arranged so that in the opened state, the lower casing (2) lies above the upper casing (3) enabling an easy access to input keys
- 15 located close to the hinge means on the lower casing, and whereby the rotation axis (R) of the hinge means (4) forming the centre of the folding movement between the lower and the upper casing lies in the middle plane of the lower casing.
- 20
- 25 2. Clamshell-type mobile terminal according to claim 1, characterised in, that the hinge means (4) comprise fixed means (5a, 5b) projecting from the display plane of the upper casing (3) and rotating means (4a, 4b) movably connecting the lower casing to the fixed means.
- 30
- 35 3. Clamshell-type mobile terminal according to claim 2, characterised in, that the fixed means and the lower casing respectively comprise through holes into and through which the rotating means extend.

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